

November 21, 1952

Dr. P. R. Edwards
Communicable Disease Center
P.O. Box 165
Chamblee, Ga.

Dear Dr. Edwards:

Thank you very much for the most interesting report on cultures 5731-5745-52. As you will have noted, each of these diagnoses agrees with the genetic prediction, excepting the identification of z_{33} , and the diphasicity of 5744, which was an open question. I do not think it will be necessary for me to burden you with any further large groups of recombination serotypes after the present batch which you have already in hand. Enough has been done to support the generality of the process. For the next couple of months I will concentrate on the details of more restricted combinations, to help solidify the genetic theory. Then, I will be in a better position to collaborate with you more closely at Chamblee when I visit, and to emphasize some of the broader serotypic problems.

5744-52 (g,p:1,2) worries me somewhat. Here is a combination that is not, as far as I know, represented in the diagnostic scheme. The experimental result shows that its absence is not due to any inconsistency with genetic possibilities. It may raise the question of the importance of the transduction process in nature. Alternatively, this combination may be somehow maladapted for reasons that we cannot now penetrate. On the other hand, 5745-52 (IV V XII: sh-) provides at least a possible hint for the origin of the monophasic "reading" studied by Cherry and yourself some time ago.

A few materials would be of some help for my immediate further work. They are, if available, some z_{33} serum; the java strain from which #157 was originally isolated; and, to help clear up a point of confusion that arose recently, another sub. of #6 (S. paratyphi b, predominantly 1,2).

I am sorry not to have emphasized this in my letter: SW-666 is a galactose-negative mutant of Kauffmann's #248. It was used instead of #248 in most of the transduction experiments, as the marker is a control on contamination. The anomalous b-agglutination occurred in a SW-666 culture which proved to be largely rough. It is still there in the original broth mixture, but all of the isolated colonies are either spontaneously or in-agglutinable, so I would assume that the apparent b-reaction is an artefact. I will send the original #248 in a future shipment, but will assume that SW-666 can be used as its serological equivalent.

Yours sincerely,

Joshua Lederberg